

MATH2111 Class Exercise 5

Family Name	Other Names	Student No.

CALCULATORS MUST NOT BE USED

1. Decide whether each of the following statements is true or false.

- (a) Every integer is a real number.
- (b) Some integers are real numbers.
- (c) Some real numbers are rational.
- (d) All real numbers are rational.

(2)

2. Let P be the implication *if today is Tuesday then there are infinitely many prime numbers*.

- (a) Is P true or false?
- (b) Write down the converse of P .
- (c) Write down the contrapositive of P .
- (d) Which of your last two answers are true statements?

(2)

3. (a) Use the Euclidean algorithm to find the greatest common divisor d of 21 and 54.

(3)

- (b) Express d as a linear combination $x \cdot 21 + y \cdot 54$ where x and y are integers.

(3)
